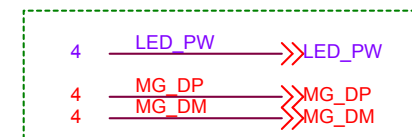
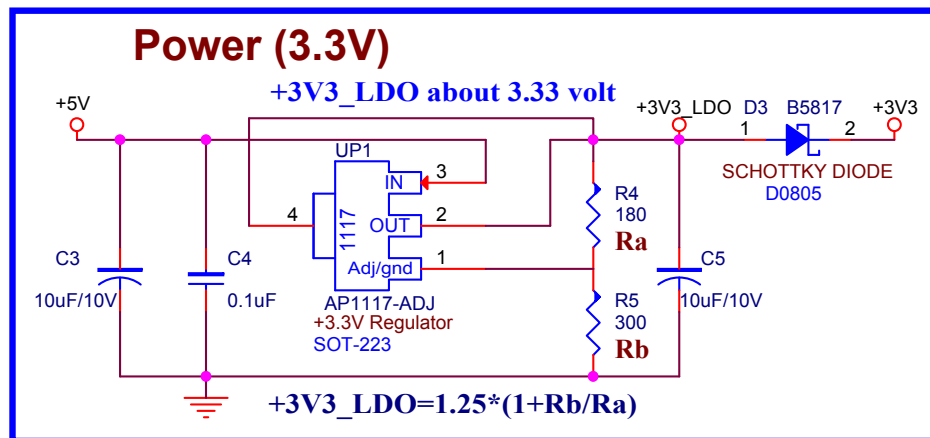
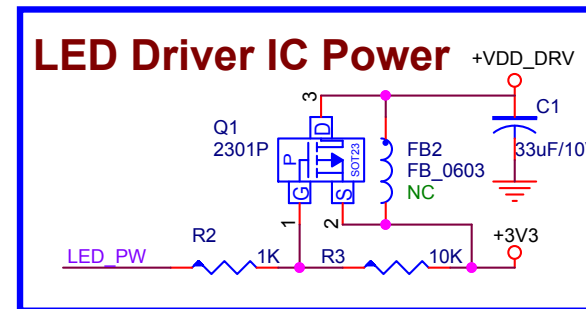
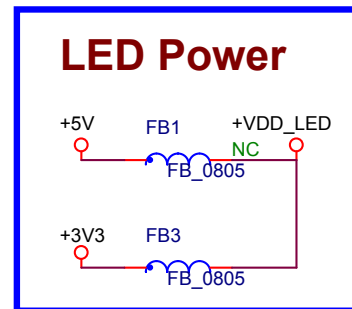
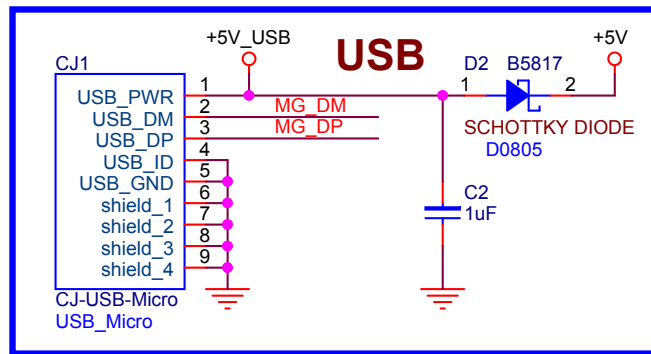
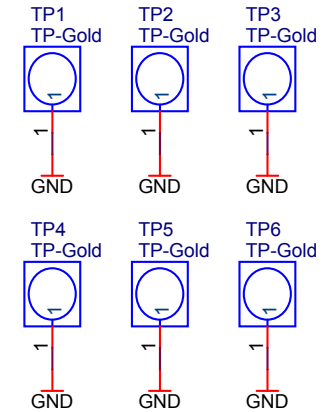
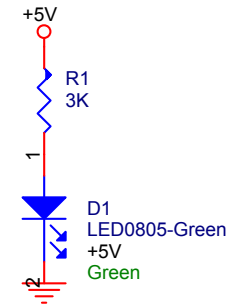
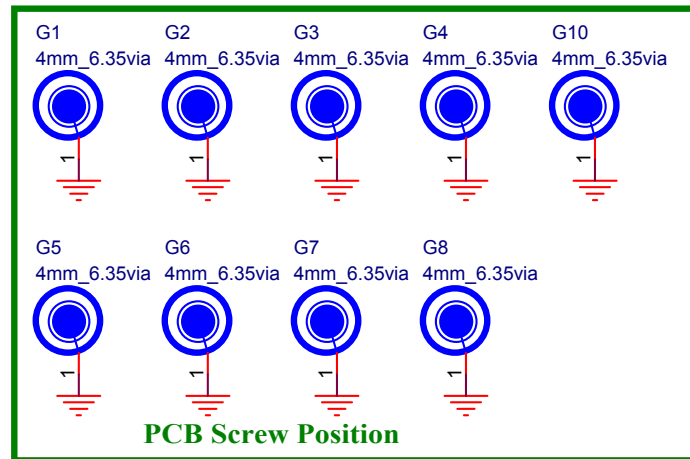


MG04-05A

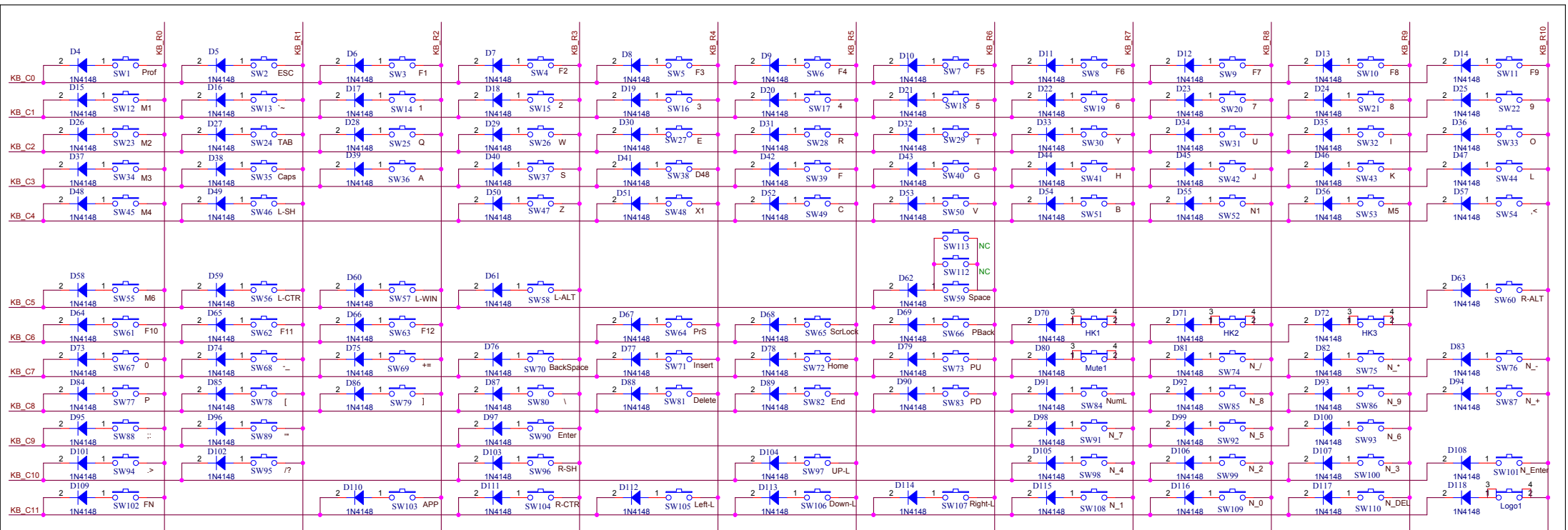
2021.1 GR09-2105C

MG32F02U USB Keyboard

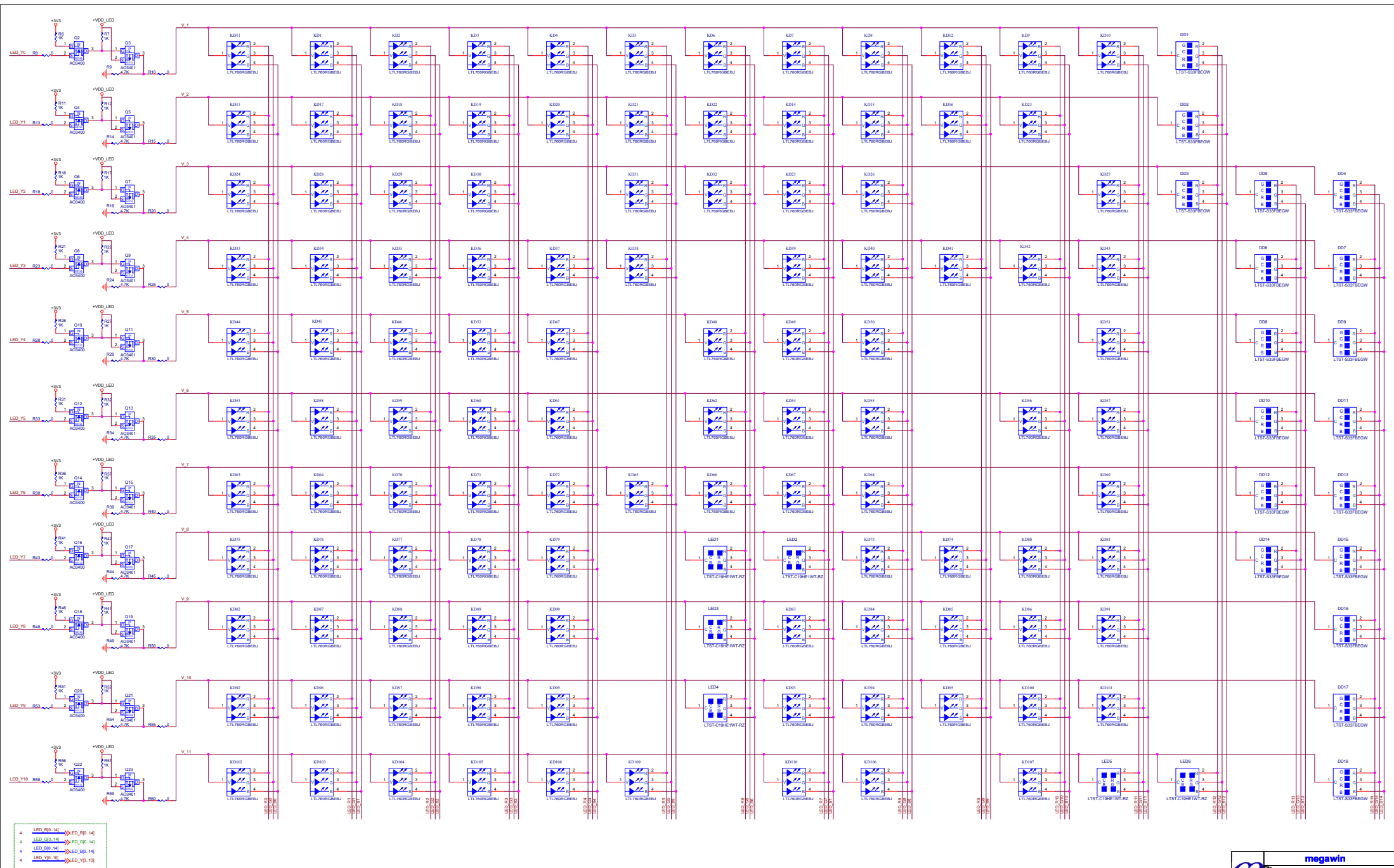


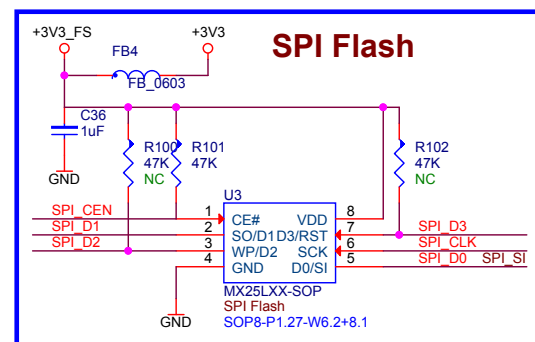
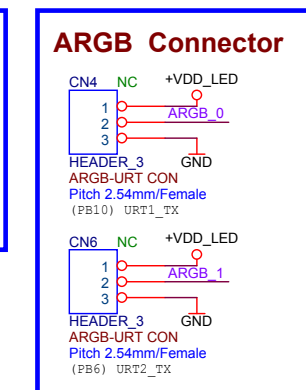
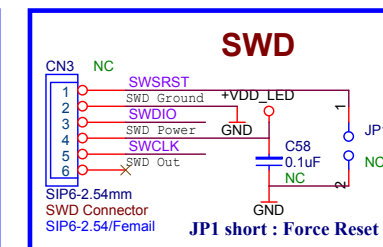
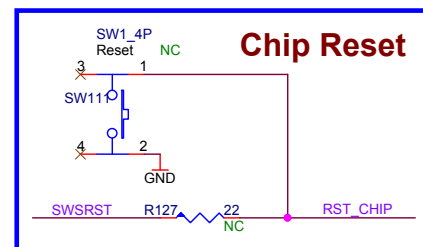
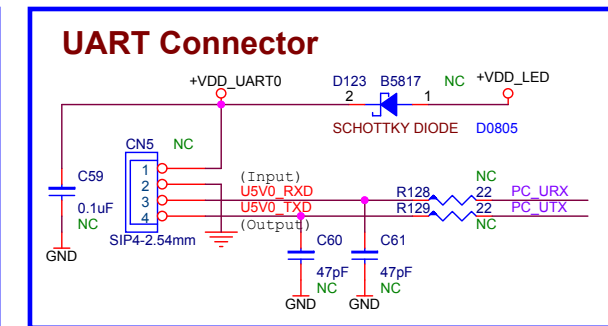
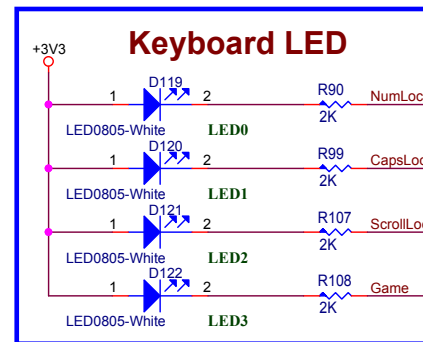
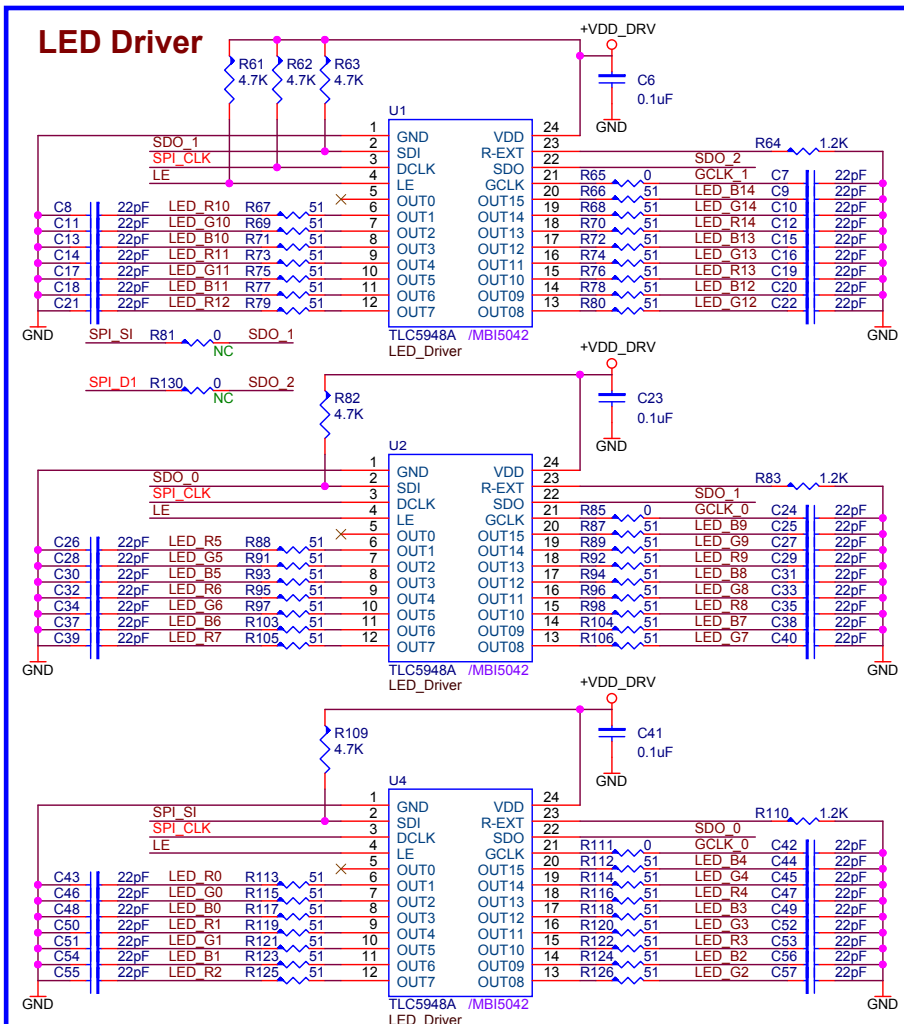
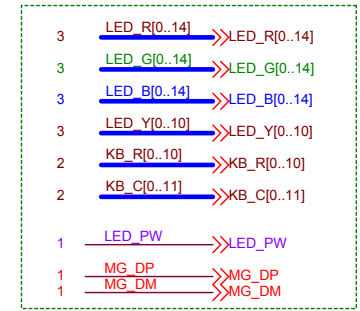
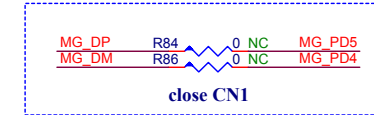
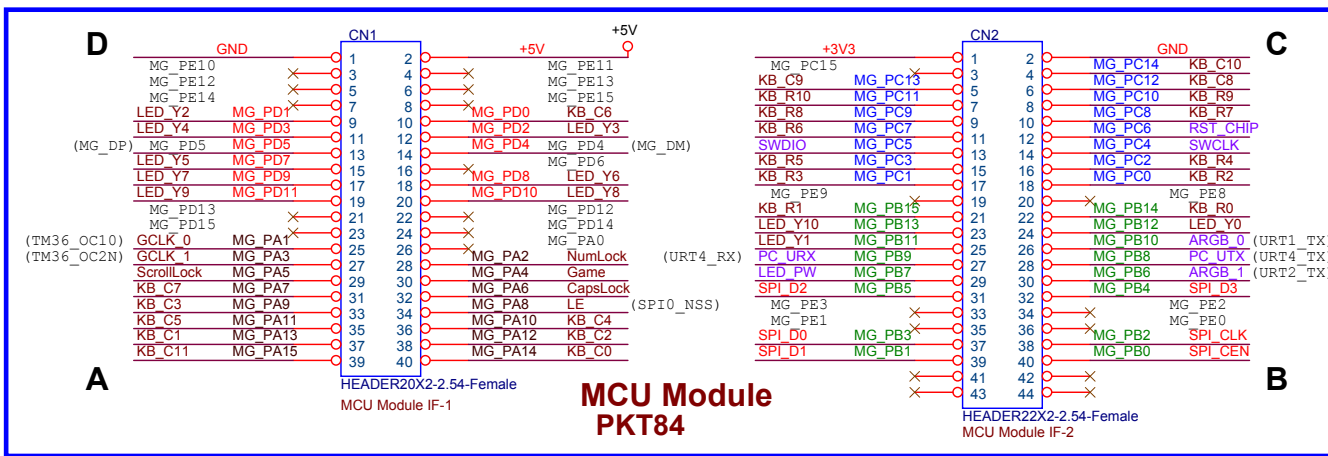
*Short these ground planes on PCB

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	System Power		
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4 KB_R[0..10] >>> KB_R[0..10]
 4 KB_C[0..11] >>> KB_C[0..11]





Board Features :

- * MG32F02U Demo Board
- * USB Device Interface
- * Key Matrix Keyboard
- * RGB LED Matrix
- * ARGB Interface

Power ~

- * USB-Micro Connector
- * Built-in 5V-to-3.3V(VDD) LDO Circuit

Debug Interface ~

- * SWD IF Connector SIP6-2.54 *1
- * UART Connector SIP4-2.54 * 2

Module IF

- * MCU Chip Module Connector 20x2 *1

On Board Component Circuit

- * SPI Flash SOP

Others ~

- * Push Button *1 (Reset)
- * Key Matrix * 110
- * RGB LED *110
- * Extra Key *5
- * Around LED *18
- * Extra LED *6
- * User LED *4

Layout Rule :

* Impedance :

1. Single-end signals ~ 12 mil/124ohm(Coated MicroStrip) for general nets
2. Single-end signals ~ 10 mil/129ohm(Coated MicroStrip) for LQFP80
3. Single-end signals with ground shield ~ 12-6/61ohm(Coated Coplanar Strips)
4. USB differential signals ~ 15-5-15/90ohm (Edge-Coupled Coated MicroStrip)

* Power/Ground :

1. Bypass cap. need close to related power/ground pin
2. Using Copper for DC input source and LDO input/output path

Board Note :

* Ferrite Beed Spec :


FB : Rdc=0.2 , Z=300/100MHz , Idc=500mA ~ MCB2012S301H
FB_L : Rdc=0.015 , Z=120/100MHz , Idc=6000mA ~ MHC3216S121W
FB_S : Rdc=0.25 , Z=60/100MHz , Idc=500mA ~ MCB1608H600H
FB_0603 : Rdc=0.15 , Z=120/100MHz , Idc=500mA ~ MCB1608S121H

ECO List on Circuit:

1. Add G10 Screw on PCB left-top corner
2. Fix SW112/SW113 nets/traces missing on PCB(circuit no change)
3. Change CN3/CN5 +VDD net to +VDD_LED
4. Change CN4/CN6 +5V net to +VDD_LED
5. Add R130 and SDO_2 net on U1

ECO List on PCB only:

1. Rotate left 90 degree of SW87(+), SW101(Enter) on MG04-05A PCB
2. Change Space key (SW59) mechanical outline on MG04-05UA PCB

	megawin		
	Title		
	Board Comment		
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